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CTF-066973

COMPONENT RELIABILITY ASSESSMENT

RECE UE

SYSTEM:

W31-2

AUE 1 - '91

MAJOR ASSEMBLY:

MC1185 Firing Set

CONTRA TE THE

COMPONENT:

116146 Pulse Transformer

FAILURE EVENT:

K6 - Failure of one pulse transformer

by shorting of primary.

K7 - Failure of one trigger transformer for any cause other than shorted

primary.

ASSESSMENT VALUE:

K6 - 0.00001

K7 - 0.00004

ASSESSMENT DATE:

March 1988

Exemption 6

RELIABILITY ANALYST:

Exemption 6

, 7222

ASSESSMENT RATIONALE:

The pulse transformers used in the MC1185 Firing Set are from a family of transformers that are all similar in design and are used in various weapons. The probability of a pulse transformer failure is assessed at 0.00005 based on SLT/LCTP test data in Table 1, which are considered the most applicable for assessing the failure rate of the above events, since these data represent transformers that have seen stockpile aging and the environments. Other data in Table 1 are shown in support of the assessment. It is estimated that 25% of all transformer failures are due to shorted primaries and 75% due to failures from all other causes including shorted secondaries. Event K6 involves failure due to a shorted transformer primary, and is, therfore, assessed at 0.00001 (.25 x 0.00005). Event K7 is assessed at 0.00004 (.75 x 0.00005).

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March 1988

Table 1 - Pulse Transformer Test Data

| | Source | No. Transformers Tested | Failures |
|----------------|--------------------------|-------------------------|--------------------------------|
| | SLT/LCTP | 9,360 | 0 |
| | SLT/LCTP(Ret.) | 11,256 | _1* |
| | Totals | 20,616 | 1 |
| LEW TO IN LINE | The second second second | | - 1 - 1 - 1 - 1 - 1 |
| 10.16 | Switzen weige Au | Support Data | |
| BI F W | Next Assembly | Chuille II ac ya | was to be a market with |
| S & Special | Firing Sets | 1 2 2 4 100 | S. C. Samer S. St. St. Physics |
| | D/E-tests | 8,873 | 0 |
| | | | |

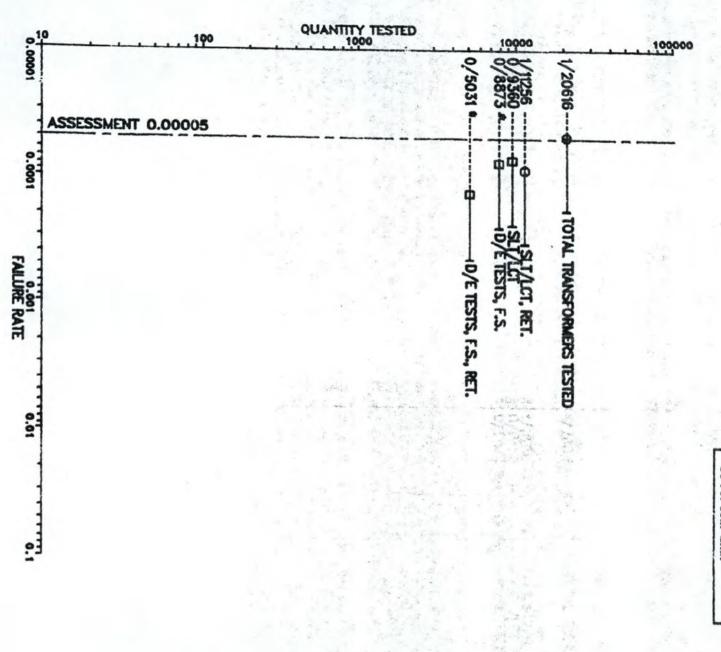
^{*}SLT-MC1191/W54 Firing Set (Ret.) - Shorted secondary winding in pulse transformer.

5,031

13,904

D/E-tests (Ret.)

Totals



)ATA-ASSESSMENT COMPARISON CHA

Data not in SUM
Upper 90 Pet Conf Lnt
Single Data Source
Pelat Estimate
U 50 Pet Conf Limit
Combined Data Sources
Polat Estimate
Polat Estimate